WHAT IS CLAIMED IS:

1. A method of reducing interference in a received signal, the method comprising:

performing a synchronization of the received signal to yield a synchronization position;

determining an updated received signal using the synchronization position and the received signal, the step of determining the updated received signal comprising iteratively performing interference-model estimation and spatio-temporal whitening;

determining an updated synchronization position of the updated received signal; and

determining a channel estimate using the updated synchronization position and the updated received signal.

2. The method of claim 1, further comprising:

providing the channel estimate to an equalizer;

providing the updated received signal to the equalizer; and

outputting, by the equalizer, of a symbol estimate.

3. The method of claim 1, wherein the step of determining the updated received signal comprises order adaptation and performing a first-order vector-noise-correlation estimation.

4. The method of claim 1, wherein symbol extension of the received signal is avoided.

5. The method of claim 1, wherein the method is employed in a single-antenna-interference-rejection application.

6. A method of reducing interference in a received signal, the method comprising:

performing synchronization and whitening of the received signal, the synchronization and whitening comprising performing the following steps at least one time:

performing a synchronization and vector-noise-correlation estimation of an input signal to yield an interference model;

performing a spatio-temporal whitening operation using the interference model and the input signal to yield an updated received signal;

wherein the input signal is the received signal when the step of performing the synchronization and vector-noise-correlation estimation is performed a first time of the at least one time; and

wherein the input signal is the updated received signal when the step of performing the synchronization and vector-noise-correlation estimation is performed following the first time of the at least one time; and

determining a channel estimate using the updated received signal.

7. The method of claim 6, further comprising:

providing the channel estimate to an equalizer;

providing the updated received signal to the equalizer; and

outputting, by the equalizer, of a symbol estimate.

8. The method of claim 6, wherein the step of performing the spatio-temporal whitening operation comprises performing a first-order vector-noise-correlation estimation via synchronization residues.

9. The method of claim 6, wherein symbol extension of the received signal is avoided.

10. The method of claim 6, wherein the method is employed in a single-antenna-interference-rejection application.

11. An apparatus for reducing interference in a received signal, the apparatus comprising:

means for performing a synchronization of the received signal to yield a synchronization position;

means for determining an updated received signal using the synchronization position and the received signal, the means for determining the updated received signal comprising means for iteratively performing interference-model estimation and spatio-temporal whitening;

means for determining an updated synchronization position of the updated received signal; and

means for determining a channel estimate using the updated synchronization position and the updated received signal.

12. The apparatus of claim 11, the apparatus further comprising:

means for providing the channel estimate to an equalizer;

means for providing the updated received signal to the equalizer; and

means for outputting, by the equalizer, of a symbol estimate.

13. The apparatus of claim 11, wherein the means for determining the updated received signal comprises means for order adaptation and means for performing a first-order vector-noise-correlation estimation.

14. The apparatus of claim 11, wherein symbol extension of the received signal is avoided.

15. The apparatus of claim 11, wherein the apparatus uses single-antenna-interference rejection.

16. An apparatus for reducing interference in a received signal, the apparatus comprising:

means for performing synchronization and whitening of the received signal, the means for synchronization and whitening being adapted to perform the following steps at least one time:

performing a synchronization and vector-noise-correlation estimation of an input signal to yield an interference model;

performing a spatio-temporal whitening operation using the interference model and the input signal to yield an updated received signal;

wherein the input signal is the received signal when the step of performing the synchronization and vector-noise-correlation estimation is performed a first time of the at least one time; and

wherein the input signal is the updated received signal when the step of performing the synchronization and vector-noise-correlation estimation is performed following the first time of the at least one time; and

means for determining a channel estimate using the updated received signal.

17. The apparatus of claim 16, further comprising:

means for providing the channel estimate to an equalizer;

means for providing the updated received signal to the equalizer; and

means for outputting, by the equalizer, of a symbol estimate.

18. The apparatus of claim 16, wherein the step of performing the spatio-temporal whitening operation comprises performing a first-order vector-noise-correlation estimation via synchronization residues.

19. The apparatus of claim 16, wherein symbol extension of the received signal is avoided.

20. The apparatus of claim 16, wherein the apparatus uses single-antenna-interference rejection.

21. The apparatus of claim 16, wherein the spatio-temporal whitening operation is terminated in response to a determination that an energy reduction of a synchronization residue is not sufficiently large.

22. An article of manufacture for reducing interference in a received signal, the article of manufacture comprising:

at least one computer readable medium;

processor instructions contained on the at least one computer readable medium, the processor instructions configured to be readable from the at least one computer readable medium by at least one processor and thereby cause the at least one processor to operate as to:

perform a synchronization of the received signal to yield a synchronization position;

determine an updated received signal using the synchronization position and the received signal, the step of determining the updated received signal comprising iteratively performing interference-model estimation and spatio-temporal whitening;

determine an updated synchronization position of the updated received signal; and

determine a channel estimate using the updated synchronization position and the updated received signal.

23. An article of manufacture for reducing interference in a received signal, the article of manufacture comprising:

at least one computer readable medium;

processor instructions contained on the at least one computer readable medium, the processor instructions configured to be readable from the at least one computer readable medium by at least one processor and thereby cause the at least one processor to operate as to:

perform synchronization and whitening of the received signal, the synchronization and whitening comprising performing the following steps at least one time:

performing a synchronization and vector-noise-correlation estimation of an input signal to yield an interference model;

performing a spatio-temporal whitening operation using the interference model and the input signal to yield an updated received signal;

wherein the input signal is the received signal when the step of performing the synchronization and vector-noise-correlation estimation is performed a first time of the at least one time; and

wherein the input signal is the updated received signal when the step of performing the synchronization and vector-noise-correlation estimation is performed following the first time of the at least one time; and

determine a channel estimate using the updated received signal.